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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,944	12/29/2005	Ian K. Engelman	0420US-Engelman	4404
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SALTAMAR INNOVATIONS 30 FERN LANE SOUTH PORTLAND, ME 04106			EXAMINER JACKSON, BRANDON LEE	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/562,944	Applicant(s) ENGELMAN, IAN K.	
	Examiner BRANDON JACKSON	Art Unit 3772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/29/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the tension element integral to one of the hinged parts must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 18 is objected to because of the following informalities: in the third line "part" should be changed to "parts," in the fourth line "second parts" should be changed to "second hinged parts," and in the line 11 "parts" should be changed to part." Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-9, 11-13, and 17-22 are rejected under 35 U.S.C. 102(b) as being anticipated by McShane et al. (US Patent 5,685,811). McShane discloses an articulated orthosis (10) having a first and second hinged parts (76, 78) having inner and outer surfaces and a joint (74). The orthosis (10) comprises first and second compression surfaces (fig. 4) disposed between the first and second hinged parts (76, 78), a plurality of retaining walls (20, 22, 24, 26) that defines chambers (28) coupled to the hinged parts (76, 78), a compression element (80, 82) fully capable of being disposed at least partially within the chamber (28), and a tension element (84) fully capable of being at least partially disposed within the chamber (28). The tension element (84) comprises a first anchor point (86) coupled to the first hinged part (76) and a second anchor point (88) coupled to the second hinged part (78). The compression

surfaces (fig. 4) are located to transmit forces to the compression element (80, 82) as a result of angular motion (col. 8, lines 35-39) between the first and second hinged parts (76, 78), wherein the forces are operable to compress the compression element (80, 82) and the tension element (84) is disposed between the compression element (80, 82) and the chamber walls (38). The compression element is a block of resilient material (col. 8, lines 35-36). The tension element (84) is retained in place by forces applied by the compression element (80, 82). The tension element (84) has at least one support (92) that interacts (col. 8, lines 45-50) with the compression element (80, 82) to retain the compression element (80, 82) in place. The compression surfaces (fig. 4) are adjustable via vertical movement of the hinged parts (76, 78) along the threads (90) of the tension element (84). The angle of the first and second hinged parts (76, 78) is inherently varied by the dimensions of the compression element (80, 28) because it is directly between the first and second hinged parts (76, 78) in the unloaded position. Modulus of elasticity determines how compressible a material is, therefore, the resistance to moment force is inherently varied by the modulus of elasticity. The tension element (84) has an adjustable effective length, which allows angular adjustment of the hinged parts (76, 78). The tension element (84) comprises an anchor point (88) transverse to the flat side of the tension element (84). The compression surfaces (fig. 4) are integral to the hinged parts (76, 78). The tension element (84) is fastened to the first anchor point (86), which is integrally formed with the first hinged part (76). Moreover, it has been held that the term "integral" is sufficiently broad to

embrace constructions united by such means as fastening and welding. *In re Hotte*, 177 USPQ 326, 328 (CCPA 1973).

With respect to claims 7-9 and 11, chamber has been given its broadest most reasonable interpretation, which is an enclosed space or compartment according to American Heritage Dictionary. Therefore, the space between the hinged parts (76, 78), the tension element (84) and the wrap (32) forms a chamber, wherein the tension element (84) defines a boundary of the chamber and has an adjustable length to change the dimensions of the chamber. The compression element (80, 82) is freely disposed within the chamber.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 3, 10, 15-16, and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over McShane et al. (US Patent 5,685,811). McShane substantially discloses the claimed invention; see rejections to claims 1 and 18 above. Further, McShane discloses first (80) and second (82) compression elements. McShane fails to disclose the modulus of elasticity of the second compression element (82) is higher than the first compression element (80), and the overall bending stiffness of the tension element is between 0.2 and 0.5 Nm. It would have been obvious to one having ordinary skill in the art at the time the invention was made to the first compression element have a higher modulus of elasticity than the first compression element and the overall bending stiffness of the tension element be between 0.2 and 0.5 Nm, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). These result effective variables would be optimized to the needs of each user. Moreover, Bartlett (US Patent 6,074,355) provides evidence that it was known in the art to vary the size or composition (i.e. modulus of elasticity) of the compressible element in order to meet the needs of the user (col. 5, lines 56-63). The same principles would have to be applied to the tension element in order for the two elements to operate properly together without one being overly stronger than the other.

Claims 14 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over McShane et al. (US Patent 5,685,811) in view of Bartlett (US Patent 6,074,355). McShane substantially discloses the claimed invention; see rejections to claims 1 and 22 above. McShane fails to disclose the compressible element is a spring, a jell cell, a

pneumatic cylinder, a hydraulic cell, or a combination thereof. However, Barlett teaches an orthosis (10) comprising a compression element (60) that can be a spring (col. 5, lines 50-52) or a hydraulic cell (90). Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention to substitute the McShane compression element for the compression element, as taught by Bartlett, in order to better provide specific amounts of force each user.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Akita et al. (US Patent 6,172,272), Carlson (US Patent 6,824,523), Hines (US Patent 5,716,336), Whiteside (US Patent 5,328,444), Fuller et al. (US Patent 5,496,263), Porcelli (US Patent 4,934,3550), Hinshon (US Patent Application Publication 2003/0158506), Seligman et al. (US Patent 7,192,407), Weihermuller (US Patent 6,666,837), Ceriani (US Patent 6,527,733), Bennett et al. (US Patent 6,245,034), Pansiera (US Patent 6,080,123) Kausak et al. (US Patent 4,723,143), Zepf (US Patent 5,624,389), Frankowiak et al. (US Patent 5,399,149).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRANDON JACKSON whose telephone number is (571)272-3414. The examiner can normally be reached on Monday - Friday 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia Bianco can be reached on (571)272-4940. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brandon Jackson/
Examiner
Art Unit 3772

BLJ

/Patricia Bianco/
Supervisory Patent Examiner, Art Unit 3772